

Application No. 10/627102
Amendment dated October 3, 2005
Reply to Office Action of May 2, 2005

Docket No.: 84150US1

AMENDMENTS TO THE CLAIMS

1-20. (Canceled)

21. (New) A method of communicating between a first network and a second network via a device, the first network having a first degree of trust and the second network having a second degree of trust that is higher than the first degree of trust, the device having a first processor in communication with the first network, a second processor in communication with the second network and an interface in communication with the first processor and the second processor, said method comprising:

- providing control information to the second processor;
- generating first status information in the first processor;
- generating second status information in the second processor;
- transmitting data from the first network to the first processor;
- processing, via the first processor, the transmitted data from the first network to provide first processed data;
- transmitting the first processed data to the interface;
- transmitting the first processed data from the interface to the second processor,
- processing, via the second processor, the first processed data to provide second processed data;
- exchanging a portion of the first status information, a portion of the second status information and a portion of the control information between the first processor and the second processor;
- acknowledging, at a probabilistic rate derived from a moving average of a rate at which the second processor is acknowledging messages from the second network, transmission from the first processor to the second processor via a communication channel between the first processor and the second processor; and
- transmitting the second processed data to the second network,

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wherein said transmitting the first processed data to the interface, said transmitting the first processed data from the interface to the second processor, said exchanging and said acknowledging of the transmission from the first processor to the second processor minimize data communication from the second network to the first network.

22. (New) The method of claim 21,

wherein said transmitting data from the first network to the first processor comprises transmitting data from at least one of a first number X of computers on the first network,

wherein said transmitting the second processed data to the second network comprises transmitting the second processed data to at least one of a second number Y of computers on the second network,

wherein X is a positive integer,

wherein Y is a positive integer, and

wherein said providing control information to the second processor comprises providing control information to permit a first computer within the first number X of computers on the first network to communicate with a second computer within the second number Y of computers on the second network.

23. (New) A method of communicating between a first network and a second network via a device, the first network having a first degree of trust and the second network having a second degree of trust that is higher than the first degree of trust, the device having a first processor in communication with the first network, a second processor in communication with the second network and an interface in communication with the first processor and the second processor, said method comprising:

providing limited control information from the second processor to the first processor;

generating first status information in the first processor;

generating second status information in the second processor;

transmitting data from the first network to the first processor;

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processing, via the first processor, the transmitted data from the first network to provide first processed data;

transmitting the first processed data to the interface;

transmitting the first processed data from the interface to the second processor,

processing, via the second processor, the first processed data to provide second processed data;

exchanging a portion of the first status information, a portion of the second status information and a portion of the control information between the first processor and the second processor;

acknowledging, at a probabilistic rate derived from a moving average of a rate at which the second processor is acknowledging messages from the second network, transmission from the first processor to the second processor via a communication channel between the first processor and the second processor; and

transmitting the second processed data to the second network,

wherein said transmitting the first processed data to the interface, said transmitting the first processed data from the interface to the second processor, said exchanging and said acknowledging of the transmission from the first processor to the second processor minimize data communication from the second network to the first network.

24. (New) A communication system for communicating between a first network and a second network, the first network having a first degree of trust and the second network having a second degree of trust that is higher than the first degree of trust, said communication system comprising:

a first processor operable to receive data from the first network and to process the received data;

an interface;

a second processor; and

communication lines connecting said first processor with said second processor and being operable to permit an exchange of status and control information between said first processor and said second processor,

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wherein said interface is operable to receive processed data from said first processor and to transmit the processed data to said second processor,

wherein said second processor is operable to further process the processed data from said interface and to transmit the further processed data to the second network,

wherein said interface is further operable to acknowledge, at a probabilistic rate derived from a moving average of a rate at which said second processor is acknowledging messages from the second network, transmission from said first processor to said second processor, and

wherein said interface and said communication lines minimize data communication from the second network to the first network.

25. (New) The communication system of claim 24, further comprising:

an administrator interface operable to provide control information to said second processor to permit a first computer within a first number X of computers on the first network to communicate with a second computer within a second number Y of computers on the second network,

wherein X is a positive integer, and

wherein Y is a positive integer.